

Name: _____

Date: _____

PCW__09__22 Coordinate transformations v15

Question 1

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x+8}{5}\right] - 3}{6}$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(5a - 8, \frac{b - 3}{6}\right)$$

Question 2

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 3 \cdot \left(f\left[\frac{x - 8}{2}\right] + 6\right)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (2a + 8, 3(b + 6))$$

Question 3

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 4 \cdot f[6x + 9] - 3$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a - 9}{6}, 4b - 3\right)$$

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Question 4

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 3 \cdot \left(f\left[\frac{x}{5} + 8\right] - 4 \right)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (5(a - 8) , 3(b - 4))$$

Question 5

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f[9(x + 7)]}{4} + 6$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{9} - 7 , \frac{b}{4} + 6 \right)$$

Question 6

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 6 \cdot f\left[\frac{x}{4} - 9\right] + 5$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (4(a + 9) , 6b + 5)$$